Date: Wed, 6 Apr 94 10:37:16 PDT
From: Info-Hams Mailing List and Newsgroup <info-hams@ucsd.edu>
Errors-To: Info-Hams-Errors@UCSD.Edu
Reply-To: Info-Hams@UCSD.Edu
Precedence: Bulk
Subject: Info-Hams Digest V94 #384
To: Info-Hams

Info-Hams Digest   Wed, 6 Apr 94   Volume 94 : Issue 384

Today's Topics:

Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>
Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 6 Apr 94 16:55:45 GMT
From: news-mail-gateway@ucsd.edu
Subject: Amateur Forwarding Rules Ammended
To: info-hams@ucsd.edu

The reason that the first Point of entry is the station to be held responsible
is that each SYSOP should beable to review messages entered to his system
before passing it on. This is messages entered by a user not another relay
station. It is not to much to ask. If a SYSOP is to busy for that he/she needs
to look at his/her life style.

Roy WB0WWA

Date: Tue, 5 Apr 1994 22:43:03 MDT
From: agate!howland.reston.ans.net!gatech!newsxfer.itd.umich.edu!nntp.cs.ubc.ca!
alberta!ve6mgs!usenet@ames.arpa
Subject: Daily Summary of Solar Geophysical Activity for 05 April
To: info-hams@ucsd.edu

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DAILY SUMMARY OF SOLAR GEOPHYSICAL ACTIVITY

05 APRIL, 1994

/\

(Based In-Part On SESC Observational Data)

SOLAR AND GEOPHYSICAL ACTIVITY INDICES FOR 05 APRIL, 1994

!!BEGIN!! (1.0) S.T.D. Solar Geophysical Data Broadcast for DAY 095, 04/05/94
10.7 FLUX=077.1 90-AVG=098   SSN=011   BKI=4443 4335 BAI=025
BGND-XRAY=A1.2   FLU1=1.1E+07 FLU10=1.2E+04 PKI=4455 4435 PAI=031
  BOU-DEV=060,048,067,028,054,026,021,092   DEV-AVG=049 NT   SWF=00:000
 XRAY-MAX= B1.1   @ 1234UT   XRAY-MIN= A1.0   @ 2056UT   XRAY-AVG= A3.5
NEUTN-MAX= +002% @ 2320UT   NEUTN-MIN= -002% @ 2350UT NEUTN-AVG= -0.1%
  PCA-MAX= +0.1DB @ 2335UT   PCA-MIN= -0.3DB @ 0710UT   PCA-AVG= -0.0DB
BOUTF-MAX=55357NT @ 0112UT   BOUTF-MIN=55311NT @ 1738UT BOUTF-AVG=55326NT
GOES7-MAX=P:+000NT@ 0000UT   GOES7-MIN=N:+000NT@ 0000UT G7-AVG=+072,+000,+000
GOES6-MAX=P:+132NT@ 1744UT   GOES6-MIN=N:-113NT@ 0735UT G6-AVG=+091,+029,-051
 FLUXFCST=STD:075,075,075;SESC:075,075,075 BAI/PAI-FCST=035,030,030/035,035,035
    KFCST=5555 5555 5555 5545 27DAY-AP=052,035   27DAY-KP=4675 5555 4465 4445
 WARNINGS=*GSTRM;*AURMIDWRN
   ALERTS=**MINSTRM
!!END-DATA!!

NOTE: The Effective Sunspot Number for 04 APR 94 was 20.0.
      The Full Kp Indices for 04 APR 94 are: 6o 6- 7- 5o   4+ 4- 3+ 4-
      The 3-Hr Ap Indices for 04 APR 94 are: 82 68 104 47 34 24 20 24
      Greater than 2 MeV Electron Fluence for 05 APR is: 1.6E+09

SYNOPSIS OF ACTIVITY

Solar activity was very low. There was no activity
of note. Region 7699 (S09W05), a single spot, was numbered.

Solar activity forecast: solar activity is expected to be very low.

The geomagnetic field has been at unsettled to active levels for the past 24 hours. High latitude stations have been at minor to major storm levels. This activity is most likely due to a favorably positioned coronal hole. Energetic electron fluxes (Gt 2 MeV) ranged from high to very high for the entire period.

Geophysical activity forecast: the geomagnetic field is expected to be unsettled to minor storm for the entire forecast period. High latitude stations will continue to see minor to major storm levels with a possiblity of occassional periods of severe storm levels.

Event probabilities 06 apr-08 apr

Class M	01/01/01
Class X	01/01/01
Proton	01/01/01
PCAF	Green

Geomagnetic activity probabilities 06 apr-08 apr

A. Middle Latitudes	
Active	25/25/30
Minor Storm	35/30/35
Major-Severe Storm	30/25/20

B. High Latitudes	
Active	25/25/25
Minor Storm	30/35/30
Major-Severe Storm	30/30/30

HF propagation conditions were below-normal from the middle to polar latitude paths, and near-normal over the lower latitude regions. Fading, multipathing, and occassional absorption continued to affect the higher latitude paths. Similar conditions are expected over the next several days.

COPIES OF JOINT USAF/NOAA SESC SOLAR GEOPHYSICAL REPORTS
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REGIONS WITH SUNSPOTS. LOCATIONS VALID AT 05/2400Z APRIL

NMBR LOCATION LO AREA Z   LL   NN MAG TYPE
7699 S09W05 320 0000 AXX 00 001 ALPHA
7698 S14W75 030   PLAGE
REGIONS DUE TO RETURN 06 APRIL TO 08 APRIL
NMBR LAT   LO
7693 N08   196

LISTING OF SOLAR ENERGETIC EVENTS FOR 05 APRIL, 1994

A. ENERGETIC EVENTS:
BEGIN MAX END RGN   LOC   XRAY OP 245MHZ 10CM   SWEEP
NONE

POSSIBLE CORONAL MASS EJECTION EVENTS FOR 05 APRIL, 1994

 BEGIN   MAX   END   LOCATION   TYPE   SIZE DUR II IV
     NO EVENTS OBSERVED

INFERRED CORONAL HOLES. LOCATIONS VALID AT 05/2400Z

               ISOLATED HOLES AND POLAR EXTENSIONS
      EAST   SOUTH WEST   NORTH CAR TYPE POL AREA   OBSN
73   S63E46 S90W90 S80W90 S23W69 330 EXT   NEG   112 10830A
74   N60E17 N25W03 N30W04 N60E05 306 EXT   NEG   006 10830A

SUMMARY OF FLARE EVENTS FOR THE PREVIOUS UTC DAY

 Date   Begin Max   End Xray Op Region Locn   2695 MHz 8800 MHz 15.4 GHz
------ ---- ---- ---- ---- -- ------ ------ --------- --------- ---------
04 Apr: 1000 1046 1057 B2.8

REGION FLARE STATISTICS FOR THE PREVIOUS UTC DAY

                C   M   X   S   1   2   3   4   Total   (%)
               -- -- --   -- -- -- -- --   --- ------
Uncorrellated: 0   0   0   0   0   0   0   0   001 (100.0)

 Total Events: 001 optical and x-ray.

EVENTS WITH SWEEPS AND/OR OPTICAL PHENOMENA FOR THE LAST UTC DAY

Date	Begin	Max	End	Xray	Op	Region	Locn	Sweeps/Optical Observations

NO EVENTS OBSERVED.

NOTES:
All times are in Universal Time (UT). Characters preceding begin, max, and end times are defined as: B = Before, U = Uncertain, A = After. All times associated with x-ray flares (ex. flares which produce associated x-ray bursts) refer to the begin, max, and end times of the x-rays. Flares which are not associated with x-ray signatures use the optical observations to determine the begin, max, and end times.

Acronyms used to identify sweeps and optical phenomena include:

II	= Type II Sweep Frequency Event
III	= Type III Sweep
IV	= Type IV Sweep
V	= Type V Sweep
Continuum	= Continuum Radio Event
Loop	= Loop Prominence System,
Spray	= Limb Spray,
Surge	= Bright Limb Surge,
EPL	= Eruptive Prominence on the Limb.

** End of Daily Report **

Date: 6 Apr 94 16:55:05 GMT
From: news-mail-gateway@ucsd.edu
Subject: DSPMorse with PAS16
To: info-hams@ucsd.edu

Text item: Text_1

The Pro Audio Spectrum 16 that I have is supposed to have a Soundblaster compatibility, yet DSPMorse doesn't recognize its existence in my system. Has anybody succeeded in getting DSPMorse to work with a PAS16?

thanks, KG7BK, Cecil_A_Moore@ccm.hf.intel.com (I don't speak for Intel)

Date: 6 Apr 94 14:02:25 GMT
From: news-mail-gateway@ucsd.edu

Subject: Ham radios on planes - Definitive answ
To: info-hams@ucsd.edu

>large RC plane. HI-HI. The airline also does not want you to use your
>cellular telephone in flight. Why? So they can make big bucks on the
>in-flight phone.

it's more than that. the cell radio system doesn't like having users accessing more than 1 cell at a time (ideally). when you are up in the plane, you are able to hit hundreds at the same time. This gives the cell system a hernia since it's not set up for such a thing -- i would think the cell radio security people would turn off your ID since such multiple access could be interpreted as your phone codes had been picked up by a phone phreak and others were trying to use your phone for free calls.

it's not like the cell radiophone folks don't make big bucks on your calls either...so don't go blaming the airlines & service providers that have set up flite-phones.

if you can't be out of touch for even a couple of hours, why are you even getting on a plane in the first place?

Bill wb9ivr

Date: Wed, 6 Apr 1994 15:19:03 GMT
From: ihnp4.ucsd.edu!sdd.hp.com!apollo.hp.com!hpwin052!hpqmoea!
dstock@network.ucsd.edu
Subject: How phasing SSB Exciters Work (Was: RF and AF speech pr
To: info-hams@ucsd.edu

David Hough (dave@llondel.demon.co.uk) wrote:
: Why not use a Weaver (Third Method) exciter? It is easy to generate a couple
: of 1800Hz carriers which are 90 degrees out of phase, and fairly easy to
: generate a couple of 10.7MHz carriers which are 90 degrees out of phase, and
: the rest is reasonably straightforward without any expensive bits. SBL1 mixers
: are cheap, so the fact that you need four shouldn't be prohibitive.
: Dave
: --

   This avoids the need for broadband (multi-octave) phase shifters but still leaves the need for precise amplitude matching to get accurate cancellation of the unwanted sideband. The required amplitude and phase matching to get comparable suppression to a reasonable quality filter exciter are both severe. You can adjust to get best cancellation, but this still needs it to be stable and for all frequencies to cancel at the same position of the adjuster.

An attractive compromise is to use a phasing source (polyphase network, weaver or whatever) to get modest suppression of the unwanted sideband, the clipper section of the RF speech processor, and finally a wide-ish lower than usual filter. We get the sum of the suppression factors of the two systems, the transmitted audio has benefitted from passing through a much lower Q filter than would be needed by a simple filter type exciter.

I think this debate is nearing its best-before date, ADCs to digitise speech are widely available and cheap. DSP devices capable of implementing an SSB modulator with "RF" speech processor are available, but still a bit pricy yet. DACs to give an IF output with plenty of dynamic range are also available and getting cheaper, especially if a low IF is used. A complete system has the promise of being cheaper for manufacturers than a single crystal filter, and will also handle lots of other modes.

Remember how VFOs were dropped the moment synthesisers became cheaper than a dial and gearbox ? and how only a few people seemed to care that those synthesisers were so dirty ? With a bit of luck this change might be done better.....

David GM4ZNX

Date: 6 Apr 94 15:06:24 GMT
From: hp-cv!hp-pcd!hpcvsnz!tomb@hplabs.hp.com
Subject: How phasing SSB Exciters Work (Was: RF and AF speech processors)
To: info-hams@ucsd.edu

A few days ago, I set down a bunch of observations that arrived at a conclusion that if one really wanted to do an analog quadrature phase network for the voice band that also had very constant group delay, it should be possible. I suggested that it would probably take several poles -- 10 to 14 -- in each side, to do an adequate job for sideband suppression. I left it as an open issue to actually find the pair of filters that would do the job.

I gave this a little more thought, and one of the first things I realized is that the lowpass-->bandpass transformation used to keep a constant amplitude response even for wideband filters _doesn't_ work to keep a constant phase response. The transformation, s = p/wo + wo/p, distorts the frequency axis and therefore causes phase distortions. There may be other transformations that would work for the phase part...

But this was all a red herring anyway: who in their right mind would

want to try to build this pair of 14-pole filters and get them tuned up right? How about exploring a more practical way:

A Hilbert Transform is a way of getting a 90 degree phase shift at all frequencies with no amplitude variation vs frequency. However, like a brickwall filter, there is no way with a finite number of computations to get a Hilbert Transform over the entire spectrum. We only need a decade, though, from 300Hz to 3kHz. How much computation does that take? Oppenheim and Schafer in "Discrete-Time Signal Processing" discuss a couple practical examples (pg 680, Example 10.3), and one suggests that an algorithm with five additions and five multiply-accumulate cycles, would come very close. Doubling that should provide excellent amplitude accuracy over the audio band. With overhead, this should be possible to do in a cheap DSP like a 2105 in about 2.5 microseconds per point. This FIR filter has an _exact_ 90 degree phase shift (plus a delay). As long as we're in the DSP, we might as well generate perfect quadrature phase carrier signals and modulate them and sum the result. Since the carrier will be a fixed frequency, the carrier signals can be simply a table lookup. You could do this at three points per cycle and output the result to a DAC and need only modest filtering to clean the output. How fast could all that be done? Assume another 1.5 microseconds for the two carrier fetches and multiplies (should be way more than enough) and the total is 4 microseconds. At three points per cycle, the cycle time is 12 microseconds, and the frequency is 83.3kHz. You then mix this up to whatever RF frequency you want to use, probably in a couple stages. The time estimate is very conservative, and a faster DSP should be capable of doing this at about a 150kHz carrier rate (just over 2uS per point). With a decent DAC, you should be able to get all spurs including the suppressed sideband down 80dB, though there is an open question about amplitude flatness of the Hilbert transform approximation using 20 non-zero terms (10 multiplications). Anyone out there familiar enough with them to comment on this?

(Comment: some may have noticed time was alloted to do the Hilbert transform for each _output_ point. Actually, it would be done only for each digitized audio _input_ point, and points between these would be filled in with an interpolation filter, which should take less time than the Hilbert transform.)

Cost to do this: ADC to digitize the audio input, DSP, clock, ROM, DAC, analog filtering on the DAC, and frequency translation stages. I submit that the ADC, DSP, ROM and DAC will be less expensive than a decent crystal filter, and getting cheaper all the time.

Date: 6 Apr 94 15:18:56 GMT

From: hp-cv!hp-pcd!hpcvsnz!tomb@hplabs.hp.com
Subject: How phasing SSB Exciters Work (Was: RF and AF speech processors)
To: info-hams@ucsd.edu

Gary Coffman (gary@ke4zv.atl.ga.us) wrote:

: Now this is much better. The ends are horrible of course, but in the
: region 600-2400 Hz there is only a delay delta of 0.014 ms. That's
: hardly audible at all to someone with *good* ears.

For some points in my table, I get the following approximate group
delays:

```
Freq, Hz Group Delay, ms
    200  1.09
    400  0.57
    800  0.31
   1600  0.15
   3200  0.07
```

Dunno how Gary got 14 microseconds; you'd have to have better-than-
golden ears to hear that, from reports I've seen. Anyway, the numbers
in the table above are from

    group-delay (seconds) = d(phase [radians])/d(frequecy [radians/sec])

As expected, they go essentially inversely with frequency.

: I'd note that this
: matrix phase shift network is considerably more complex than typical
: networks found in older phasing type equipment. And as Richard Karlquist

I recall having the values used in the B&W phase shift network around
somewhere, but couldn't find them. I wanted to put that into Spice
originally, cuz it would have been a lot simpler than that "matrix"
network. Can someone supply the values? I'd be happy to run them
for comparison.

Date: 6 Apr 1994 16:41:27 GMT
From: ihnp4.ucsd.edu!swrinde!elroy.jpl.nasa.gov!netline-fddi.jpl.nasa.gov!sookit!
rspear@network.ucsd.edu
Subject: Icom IC-W21AT?
To: info-hams@ucsd.edu

Jesse L Wei (jlw3@cec3.wustl.edu) wrote:
: I'm getting ready to get my first rig, and I think I've decided on the

: IC-W21AT. My question is: I have heard some rumors that because of the
: ECPA, the magic key-sequence opening up wideband rx will be/is no longer
: applicable. Has anybody who has bought the ht recently tried it? Does
: it still work, and will I have any anticipated complaints with the ht?
: It's pretty much between this and the Yaesu FT-530. I plan to purchase
: sometime within three weeks. Please respond to jlw3@cec.wustl.edu or post
: response!!

: --jesse (still waiting, 102 days and counting. . .)

jesse -

i don't know about the w21at, but my v21at does not allow wideband
receive. my guess is that this will be true for a new w21at also.

regards, richard kd6lwd

rspear@sookit.jpl.nasa.gov
all disclaimers apply

Date: 6 Apr 1994 14:40:15 GMT
From: ihnp4.ucsd.edu!usc!howland.reston.ans.net!noc.near.net!jericho.mc.com!fugu!
levine@network.ucsd.edu
Subject: Operation of Ham radios on planes
To: info-hams@ucsd.edu

In article 17055@bongo.tele.com, julian@bongo.tele.com (Julian Macassey) writes:
-->In article <CnoCCu.s6@armory.com> dev@armory.com (Uncle Dave) writes:
-->
--> I of course have operated my walkiie-talkie from commercial
-->aircraft. I have done this since 1974. I have even operated my 2M
-->walki-talkie from the flight deck. I am still here, isn't that
-->amazing.
-->
-->--
-->Julian Macassey, N6ARE julian@bongo.tele.com Voice: (414) 457-0874
-->Paper Mail: 210 Bleyer Drive, Sheboygan, Wisconsin 53081

The thread refuses to die because people make wild statements
they only THINK make sense.

In reality you cannot operate your ham walkie-talkie in
flight operating under IFR. Read your FCC regs that you
ought to check before you reply. The pilot has no authority
to authorize you to violate the FCC regs. 99% of the
time commercial flights operate under IFR regardless of

the weather conditions.

Isn't there a way to FTP the FCC regs? Do it and grep
for IFR.

I wouldnt admit to too many federal law violations on the
internet either!

Bob Levine KD1GG 7J1AIS VK2GYN   formerly KA1JFP
levine@mc.com   <--Internet email   Phone(508) 256-1300 x247
kd1gg@wa1phy.ma <--Packet Mail   FAX(508) 256-3599

Date: 6 Apr 1994 15:03:36 GMT
From: ihnp4.ucsd.edu!usc!howland.reston.ans.net!noc.near.net!jericho.mc.com!fugu!
levine@network.ucsd.edu
Subject: Part 97 Sec 11 Ham on Planes
To: info-hams@ucsd.edu

Can someone put this in the FAQ for this group?

     S 97.11 Stations aboard ships or aircraft.
  (c) The station must not constitute a hazard to the safety
      of life or property. For a station aboard an aircraft, the
      apparatus shall not be operated while the aircraft is operating
      ----
      under Instrument Flight Rules, as defined by the FAA, unless the
      ----
      station has been found to comply with all applicable FAA Rules.

Are you ready to present evidence that your equipment complies with all
applicable FAA Rules. Heck, Ham Radios aren't even type accepted.

Bob Levine KD1GG 7J1AIS VK2GYN   formerly KA1JFP
levine@mc.com   <--Internet email   Phone(508) 256-1300 x247
kd1gg@wa1phy.ma <--Packet Mail   FAX(508) 256-3599

Date: 6 Apr 1994 15:03:30 GMT

From: ihnp4.ucsd.edu!usc!howland.reston.ans.net!gatech!newsxfer.itd.umich.edu!
news1.oakland.edu!vela.acs.oakland.edu!prvalko@network.ucsd.edu
To: info-hams@ucsd.edu

References <bote.765267957@access1>, <HIDEG.94Apr4011228@spsd10b.erim.org>,
<bote.765611050@access3>rvalk
Subject : Re: Heinous operating techniques (AGAIN!)

I live in the Detroit area and this STUPID practice seems to have
started with what used to be a pretty good net (SEMTN) on the 5.33
Edison repeater.

I have talked to many hams (besides myself) that just gave up on
checking into "official" nets simple because of this new procedure!

I also spoke with a friend in the military who said it is very common to
check into their nets this way, but he said that primarily happens
because the rig just happens to quit transmitting after a couple seconds
:-)

It is stupid Stupid STUPID!!!

wb8zjl

Date: 6 Apr 94 14:53:43 GMT
From: agate!howland.reston.ans.net!gatech!newsxfer.itd.umich.edu!nntp.cs.ubc.ca!
alberta!adec23!mark@ucbvax.berkeley.edu
To: info-hams@ucsd.edu

References <765162276snx@llondel.demon.co.uk>,
<1994Apr4.154533.24771@ve6mgs.ampr.org>, <765518867snx@llondel.demon.co.uk>
Subject : Re: STOP SENDING HAMS ON USENET CRAP !!!

dave@llondel.demon.co.uk (David Hough) writes:

>>Nope, the previous message ID will prevent it *ever* posting again. It uses
>>a standardized message ID which you can easily interpret, though.
>Depends on how long you hold message IDs - no one can hold them indefinitely
>so there must come a time when you can re-use one.

My experience has shown that it is *longer* than a year for the net in
General (I switched to <$packet_bid.1994@ampr.org> for all the messages
that will eventually land on packet radio in rec.radio.info). In fact, I can
find archive sites with articles dating back to 1987, so the word should
actually be `indefinitely'.

>>   If you have no kill file, or feed control facitilites,
>>I strongly recommend to you to `get a real system', or inform your toy BBS
>>sysop `To upgrade or die'.
>Catch-22 time... if I run a kill file it slows the system down (each potential
>incoming has to be checked) and the more in it, the slower it gets. There
>comes a point where I might as well download everything and put up with it :-(

It takes *no* extra processing time to have your feed site place this in his
sys file:
 MACHINE/MAILDOMAIN:...!rec.answers,rec.radio.info...
or some imaginative combination there-of. Yes, it would be ludicris to have
the feed site check for message-IDs (I use a standard for all the information
postings I have an influence over, you *can* match to it for the Amateurs on
USENET List, if you set up an ihave-sendme feed, then *you* [or your feed site]
can do it easily). You can even use Message-IDs to prevent all postings from
me from ever crossing the news boundaries ... ;-/

Ciao, 73 de VE6MGS/Mark -sk-

Date: 6 Apr 94 14:44:39 GMT
From: agate!howland.reston.ans.net!gatech!newsxfer.itd.umich.edu!nntp.cs.ubc.ca!
alberta!adec23!mark@ucbvax.berkeley.edu
To: info-hams@ucsd.edu

References <2nf4ra$ka3@search01.news.aol.com>,
<1994Apr4.153626.24688@ve6mgs.ampr.org>, <Cnqvwq.J2q@world.std.com>
Subject : Re: STOP SENDING HAMS ON USENET CRAP !!!

dts@world.std.com (Daniel T Senie) writes:

>Could you please cite examples of news readers that DO get this "correct"?

nn, I believe tin gets it right as well.

>The "problem" is most definitely NOT limited to AOL.

It is limited to most machines running a DOS filesystem (no links) (I believe
there is a version of nn for these machines that solves that problem), and any
other machines with a poor implementation of a newsreader of the month ...

Ciao -- 73 de VE6MGS/Mark -sk-

End of Info-Hams Digest V94 #384
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